



**TRANSEXUAL BODIES IN SPORT: DEVELOPMENTS FROM VALKYRIA  
MONTES' CASE**

**CORPOS TRANS NO ESPORTE: DESDOBRAMENTOS A PARTIR DO CASO DE  
VALKYRIA MONTES**

**CUERPOS TRANS EN EL DEPORTE: DESARROLLOS DEL CASO VALKYRIA  
MONTES**

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**Abstract:** The objective of this work is to understand the historical path of Valkyria Montes in sport and, from there, to problematize the participation of a trans women in sports competitions, whether they are official or not. To this end, we developed a case study characterized as descriptive and qualitative. For data collection, we conducted an interview with a semi-structured script that was later transcribed and analyzed by the content analysis technique. As a result, we found that, although Valkyria's participation in volleyball is hybrid, since she participates in competitions for both male and female, she still finds significant resistance to be able to act among cisgender women, based on legal aspects, moral and ethical aspects that circumvent the premises of equality and justice in the spheres of sport.

**Keywords:** Human body; Sport; Gender; Transgender persons; Case study.

**Resumo:** O objetivo deste trabalho é compreender o percurso histórico de Valkyria Montes no esporte e, a partir daí, problematizar a participação de mulheres trans em competições esportivas, sejam elas oficiais ou não. Para tanto, desenvolvemos um estudo de caso caracterizado como descritivo e de cunho qualitativo. Para coleta de dados, realizamos uma entrevista com roteiro semiestruturado que foi posteriormente transcrita e analisada pela técnica de análise de conteúdo. Como resultados, encontramos que, embora a participação de Valkyria no voleibol seja híbrida, já que ela participa de competições tanto pelo naípe masculino quanto feminino, ainda encontra resistências significativas para poder atuar entre as mulheres cisgênero, com base em aspectos legais, morais e éticos que contornam as premissas de igualdade e justiça nas esferas do esporte.

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**Palavra-chave:** Corpo humano; Esportes; Gênero; Pessoas transgênero; Estudo de caso.

**Resumen:** El objetivo de este trabajo es comprender la trayectoria histórica de Valkyria Montes en el deporte y, a partir de ahí, problematizar la participación de mujeres trans en las competencias deportivas, sean oficiales o no. Por lo tanto, desarrollamos un estudio de caso caracterizado como descriptivo y cualitativo. Para recoger los datos se realizó una entrevista con un guión semiestructurado que posteriormente fue transcrito y analizado mediante la técnica de análisis de contenido. Como resultado, encontramos que, si bien la participación de Valkyria en el voleibol es híbrida, ya que participa en competencias tanto masculinas como femeninas, aún encuentra una resistencia significativa para poder actuar entre mujeres cisgénero, basada en aspectos legales, morales y éticos que eluden las premisas de igualdad y justicia en los ámbitos del deporte.

**Palabras clave:** Cuerpo humano; Deportes; Género; Personas transgénero; Estudio de caso.

## 1 Introduction

In contemporary times, bodies escape from shallow framing and vanish into the fixed categories to which we are used to arbitrarily framing them to be social recognized. Le Breton (2014) highlights that it is no longer appropriate to think about the category of “body” in the singular or ignore the historical, value and moral processes that permeate the sociocultural representations of this embodiment today. Being essential for the constitution of the subject's identity, bodies are marked by enunciative mechanisms of gender, race, ethnicity, class, creed, generation, nationality, sexual orientation, among others, becoming entangled in revocable proposals of the subjects, being crossed by numerous processes that recognize and, above all, validate people's social attendance.

In this article, we will pay special attention to the case of Valkyria Vonshiroder Pedroso Montes, a transsexual woman, born in Bariri, a city in the interior of São Paulo, in her third year of gender transition<sup>3</sup>. She is currently twenty-one years old and is studying Physical Education at the São Paulo State University Júlio de Mesquita Filho – UNESP, Bauru campus, also in the interior of the state of São Paulo. Valkyria plays for men's volleyball in the city of Itapuí (bordering city of Bariri) in regional and state competitions, participating in the women's team as well, but only for training composition.

Based on Le Breton (2014), we establish the differentiation between the concepts of transsexuality and transgenerity which, although they can be united in a common circle – together with transvestites – in the expression of trans people, differs in the sense that the first adopts for itself and underpins a position of sex/gender, while the second refuses these positions, especially those of a binary order, and emerges as a problematizer of differences.

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<sup>3</sup> The information refers to the interview period with the athlete, comprised in 2019.

In sport, the presence of trans people represents a problem that is far from being solved. Driven by the publication of the International Olympic Committee (IOC) of 2015, discussions on the subject address social and physiological aspects that aim to analyze and assess whether participation is possible, legal and fair in the face of the current scenario of modern sports competitions (CAMARGO; KESSLER, 2017). The recommendations of the IOC (2015) suggest:

1. Those who transition from female to male are eligible to compete in the male category without restriction.
2. Those who transition from male to female are eligible to compete in the female category under the following conditions:
  - 2.1. The athlete has declared that her gender identity is female. The declaration cannot be changed, for sporting purposes, for a minimum of four years.
  - 2.2. The athlete must demonstrate that her total testosterone level in serum has been below 10 nmol/L for at least 12 months prior to her first competition (with the requirement for any longer period to be based on a confidential case-by-case evaluation, considering whether or not 12 months is a sufficient length of time to minimize any advantage in women's competition).
  - 2.3. The athlete's total testosterone level in serum must remain below 10 nmol/L throughout the period of desired eligibility to compete in the female category.
  - 2.4. Compliance with these conditions may be monitored by testing. In the event of non-compliance, the athlete's eligibility for female competition will be suspended for 12 months (IOC, 2015, p. 2-3).

Given the above, our objective is to understand Valkyria's historical path in sport and, from there, to problematize the participation of trans women in sport competitions, whether official or not. Our guiding questions are: how does the performativity of a trans woman in sport materialize? How does Valkyria react to the responses that her presence and performance trigger in the spaces in which she circulates?

Of a political nature, we hope to contribute to the studies of gender and sexualities in sport, valuing the criticality of the theme in question, in addition to demystifying prejudices and knowledge already ingrained in common sense with little scientific evidence. Thus, we hope that this research becomes another powerful opportunity to question the norms that permeate the sports sphere, enabling reflections that aim to subvert the problem involving trans people and sport today.

## 2 Methodology

The present work<sup>4</sup> is characterized as a case study, descriptive and qualitative (TRIVIÑOS, 2015). The subject of our research is Valkyria Montes, a transsexual woman who studies Physical Education at the São Paulo State University Júlio de Mesquita Filho – UNESP,

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<sup>4</sup> This work comes from the project "The trajectory of trans athletes in sport", approved by the Ethics and Research Committee of the University Hospital Clementino Fraga Filho of the Federal University of Rio de Janeiro - HUCFF/UFRJ -, with the Protocol number: 098-19; CAAE number: 10289419.5.0000.5257; and opinion number: 3.387.888.

Bauru campus. The student is a volleyball athlete and defends the men's team of Itapuí/SP, having already played for the female representative team of UNESP/Bauru.

We conducted an interview with a semi-structured script (TRIVIÑOS, 2015) containing questions about Valkyria's life story, such as aspects related to the social environments in which she was/is inserted (family, school, clubs, university), sport and their technologies (media, fans, locker rooms). The survey was carried out in 2019 via video link through the WhatsApp Web application, being recorded with live screen capture. All data were later transcribed in a notebook.

To analyze them, we refer to the Content Analysis (CA) technique proposed by Bardin (2011). According to the author, this process is divided into three stages with interconnected functions, namely: pre-analysis, followed by referential interpretation and later on with amplification of the discussions.

In the pre-analysis, we read the data and preliminarily build the indicators that will be fundamental for the analysis, thus defining the registration units; in the referential interpretation, we reference our indexes and indicate our notes through text clippings and categorizations, ordering our material for a more specific exploration; and in the amplification of the discussions, we weave our analyzes in dialogue with the most significant literature and scientific evidence according to the target object of the research in question (BARDIN, 2011).

Our results were divided and grouped in blocks according to Valkyria's testimony. In the first one, called "Memoir", we talk about the trajectory of the student/athlete since Physical Education at school; in the second, called "Absorbed by the university", we discuss her sporting participation at UNESP in Bauru and in competitions representing the university; in the third, called "The current sporting work", we situate Valkyria's performance nowadays, analyzing her process of gender transition and; in the fourth, called "Spaces/publics (in)hospitable and inspections", we investigate how the social treatment of Valkyria is, wherever she circulates and what parameters are used to justify or not her participation in sporting events.

### **3 Results and discussion**

#### **3.1 Memoir**

Valkyria reports having started in the sport at an early age, first in the futsal modality, then in volleyball, both in school Physical Education. At first, her insertion took place among boys due to her identification as a boy at the time.

I think sport has been in my life since ever, I've always played futsal in the first place, then I got to know volleyball, which was the sport I fell in love with, at school, and I started attending men's training, I've always liked of being together with the boys, always playing and going to school championships.

During elementary school, Valkyria says that because she attended a school where she was known by several people, including some members of her family who had already worked at

the institution, the prejudice against her behavior that deviated from the norms expected for a boy of her age was always repelled:

I made a lot of mess (laughs). Everyone at school here knows me, I didn't care, if it was futsal, if it was basketball, if it was volleyball, if it was dodgeball, if it was a game, if it was in the classroom, I was the queen... I had a lot of fun, imagine a faggot, I was Vera Verão playing futsal. And here we always had a policy of zero support for prejudice, so any and all situations that happened, it was taken to the direction, pedagogical coordinator, educational psychologist, make a scene and it was already resolved, it was always like that, you know.

However, her bodily rebirth was not easy. Valkyria says that she was very cautious and carefully evaluated the situations present in her life, and to take the decision about gender transition, even using bodily modifications, she needed to mature a series of individual norms against social norms, in a gradient of intervention: first, she changed her visual expressions; then, realizing that she was convinced, she started treatment with antiandrogen hormones, as she reports:

I tried, firstly, to change my gender expression, clothing, everything just right, the textual part, all the aesthetic [...] to start all the treatment, the HT, hormone therapy, I had to figure it out, I thought and rethought the pros and cons [...] because it's not a joke to take a hormone and mess with all the physiological and hormonal aspects, mess with parameters, lean mass, adipose tissue [pause] there are many risks in hormone therapy, especially to girls who do it on their own.

Le Breton (2014) discusses the mutable processes of these new identifications (whether they are fixed or mutable), stating that trans people can use various devices that will help in this process, one of the main ones being hormonal reassignment<sup>5</sup> (HT). In short, this process consists of the “pharmacological interruption of the production of hormones specific to the sex of birth and, conversely, the use of hormones with the concern of remodeling the body” (LE BRETON, 2014, p. 21, our translation).

As social responses to these performative changes, there is a discomfort on the part of those “whose sense of identity is deeply rooted in an old view of gender, frees others, who have difficulty recognizing the need to find their place in duality, and practically does not affect most of our contemporaries” (LE BRETON, 2014, p. 20, our translation).

Valkyria, however, claims that she doesn't mind the criticism her image unleashes and that her current inspiration is the athlete Tifanny Abreu<sup>6</sup>, transsexual woman who defended the

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<sup>5</sup> Anchored by biologists, including Fausto-Sterling, Le Breton (2014) rejects the “sexual” qualification for hormones used in hormonal reassignment, as they play several roles in the human body. To avoid the ambiguity of the sexual metaphor, Le Breton turns to Fausto-Sterling to classify them into steroid or growth hormones.

<sup>6</sup> Tifanny's case has already been investigated by Prado and Nogueira (2018) and Garcia and Pereira (2019). For greater knowledge, we recommend reading the authors.

SESI/Bauru women's volleyball team. Valkyria became aware of Tiffany's case in 2016, when she was finishing her transition process and was still playing among men:

I read on the internet on a transgender forum [...] about a trans player who participated in competitions in a men's team in Italy [...] then I went to know Tiffany's history, who she is, her trajectory, and I was enchanted by the fact that she continued to participate in competitions for the men's team. After this historic feat she managed to make room for trans athletes in national sport in their identification teams, you know? It's wonderful [...] I think it's my biggest reference, actually [...] my muse in volleyball [...] it's palpable, she plays in Bauru, we have this contact [...] my biggest inspiration in volleyball, without a shadow of a doubt, and as a woman too.

### 3.2 Absorbed by the university

Already in her first year, she faced a problem: she was starting her gender transition and wanted to participate in volleyball training at UNESP/Bauru. She asked herself: "Would college sports accept a trans girl?" From this particularity came the idea of training in both suits and act in events as the regulations pay attention to the theme.:

So, since my first, second and third year at college, going through this transition, I've always trained with both the men's and women's volleyball teams, but only at the last year [2018] I managed with the League people, by regulation, the possibility of playing in women's college sports. I played the Inter and the Desafio de Gigantes, the two volleyball championships by UNESP in the women's team, with the assumed name assured, and in general the acceptance by the team was very good.

In the midst of training and games, there was their doubt: how to treat her? How did Valkyria recognize herself? How to deal with that body in college sports? Valkyria tells her strategy to be able to demystify the suspicion that haunted the imagination of her colleagues:

My role was to explain to girls, boys, coaches and people at Atlética, who had never had a trans athlete before, so they didn't really know how to act [...] and what was my main approach, breaking with this idea on the biomedical side, of the male-female duality, working a little bit of that common sense and false moralism that existed as one of the team's values until then.

The support of the partners was never lacking and it was essential at that time, since Valkyria reports that she has always had the disapproval of the technician responsible for the female team, who disagreed with her work with cisgender women<sup>7</sup>:

I think the team was supportive, because whether I wanted it or not, I learned a lot of new things [...] from the little things about positioning on the game to conversations outside of training, I think the girls were very supportive, although the technique had been openly against me since the beginning, but college Athletic didn't give her much choice.

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<sup>7</sup> Viviane Vergueiro defines cisgenderness as: "[...] can be summarized as the gender identity of those people whose "internal and individual experience of gender" corresponds to the "sex assigned at birth" to them. In other words, the term "cisgender" is a concept that encompasses people who identify with the gender assigned to them at birth" (2015, p. 44, our translation).

Another obstacle in this process was the number of measures she had to adopt to be able to act among cisgender women and achieve her social recognition in university competitions:

Bureaucracy, because it's bureaucracy [...] a huge bureaucracy, I was like 'I can't believe I'm doing this, so much work just to be able to play' [...] the importance of rectifying the name [...] the reception for a trans woman while she is in this period of her life of transition, it is a difficult period, it affects the psychological, the emotional, we get shaken, it was difficult for me to have all this flexibility to balance all these little problems.

In addition, her biggest motivators were, precisely, her biggest difficulties. Driven by challenges, Valkyria always felt urged to overcome what bothered her, making her adversity her most advantageous benefit: "It's complicated to understand, but my biggest motivation, what drives me, is to be able to overcome the challenges that the day by day offers me, to be able to dodge all the stray bullets that life sends".

Today, however, she left the university's women's team due to a disagreement with the technique. To preserve her mental health, according to her, she preferred to leave that space: "I left the team at UNESP, I had a small problem, a small disagreement with the technique and I chose to leave. It was kind of costing my health, my psychological sanity, my mental sanity, so I put a stop on it."

Camargo and Kessler (2017) reflect the trans coexistence in sport when approaching, based on the philosopher Paul Preciado, about the bodies of trans women (techno-women, as they are identified, since Preciado adopts this nomenclature to designate non-bio people – that is, not-cis). For the authors, there are artifacts that are part of a web of norms that are imputed to trans people to "adapt them" to the sports phenomenon, thus exempting the opposite process and absolving the sport from reformulations: "Sexual normalization would be the price to pay to legitimize sports participation. The destabilization caused by dissonant bodies is calmed with normative determinations that regulate what is outside of the established standards" (CAMARGO; KESSLER, 2017, p. 200, our translation).

In these ways, alternative competitions to traditional models were created, such as exclusive competitions to LGBTI+ people which, although they are an alternative for those who flee from the stigmas and prejudices of cissexual<sup>8</sup> and/or heteronormative competitive spaces, are configured as places of exclusion of this portion of people, as they segregate bodies due to their differences and legitimize the sport as a straight practice through social/sexual knowledge/power conflicts, extending even to university competitions.

Camargo and Kessler (2017) highlight that although the LGBTI+ public has grown in participation and performance in sporting events, the 'T' people in the acronym are still invisible

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<sup>8</sup> To Vergueiro (2015, p. 15, our translation), cisgenderness and cissexuality are part of what the author calls the "world-system, westernized/Christiancentric modern/colonial capitalist/patriarchal" that produces "epistemic hierarchies" in which [...] non-cisgender perspectives are excluded, minimized, or silenced.

and overlooked in this scenario, even in competitions that are targeted to diversities. The authors defend that this is a new agenda for inclusion in the debates on the causes of social/sexual power minorities, since, compared to their colleagues in the cause, there have no equal possibilities of presence, recognition and participation. We recommend that it is also a discussion to be debated in university sports, as it is also a space for the consolidation of knowledge, power and, above all, the biopolitics of the modern trans body.

Finally, in this unit, it is worth noting that in a bibliographical research, we did not find even a result that addressed the topic of trans students/athletes in university sports, which is a promising area for conducting studies on the topic at hand. We recommend that the way in which the Brazilian Confederation of University Sports (BCUS) deals with the situation should also be investigated, since the number of trans students in Brazilian universities has been growing year after year, as a result of student assistance programs (MESQUITA; RODRIGUES, 2019).

Trans students/athletes in university competitions is already one more reality that needs to be discussed, considering that some of these student assistance programs, such as the PNAES, for example, guarantee, among others, the right to participate in sports activities with the institution of higher education to which the student is regularly enrolled (MESQUITA; RODRIGUES, 2019).

### **3.3 The current sporting work**

What for many trans women is a problem, for her it's just another situation that, with time and the rectification of her documents, will be resolved. Due to the fact that her birth name still appears in her valid documentation (the assumed name was obtained from UNESP in student ID only), Valkyria cannot act among women in the municipal competitions she disputes:

I don't feel uncomfortable playing on the men's team because I'm well resolved with myself and know that it's not necessarily the team I play that will put me in a little labeled pot, I'm aware that I'm just not playing on the women's team because I have a problem with my documentation with my assumed name, rectification of documents, reservist, voter registration, CPF registration, you know, so I'm just not playing for women because of this fact.

However, she reveals that after rectifying and updating her data, she prefers not to act anymore in men's competitions, restricting herself to women's competitions, and recognizes that if any obstacles arise and prevent her from playing in this suit, she will have to be content to participate among men so as not to stop playing volleyball:

When I get everything, all this documentation, all this tangle of documents with all the rectification of the social name, without exception, I would like to play only for women's teams, because it would be ideal [...] as I said, I am well resolved with that, what's important is that I never stop playing.

Another item pointed out is the number of adaptations that your body promoted after



starting HT. Valkyria claims that her performance decreased due to physiological changes, such as increase of fat mass and decrease of lean mass; different responses in speed and agility; and psychological, such as those related to mood. For her, having started HT after puberty decisively influenced these adaptations:

I'm fat, a lot, in addition to being fat I became slower (laughs) at one point I turned to the side and there was a ball passing my nose [...] speed, reaction time, my lean mass decreased a lot, a lot, I was much more stronger, I started to accumulate more adipose tissue, I lost a little bone mineral mass, for some time now I decided to do all the treatment accompanied by an endocrinologist [...] increased accumulation and water retention, accumulation of localized adipose tissue [...] And now what really caught me was the psychological and emotional effects of the therapy [...] I can call it PMS [pause] it's strange and it's difficult, I don't know how women stand it [...] I started when I was old and I can't stand it. I cry a lot [...] become very angry, then I get a crybaby [...] So I think the biggest impact for me is the psychological and emotional part.

Although her comment above sticks to the unwanted effects that HT to MtF (male to female) promotes on the body and on sports performance, Valkyria recognizes that HT enabled the aesthetic changes she desired, such as the development of breasts and changing hair, nails and skin:

Aesthetically, I'm much better, because I'm accumulating more adipose tissue, characteristics such as breasts, they are growing due to the hormone, the body shape changes, the texture of the hair, the nails, the skin [...] I'm loving it [...] It takes time, it takes a lot of time, especially because I started it [HT] in a way, we can say late, I've already had an exposure over a period of time to testosterone, so to have this return, which for me is a progress, takes a little time. This hormonal action [...] is severe in the body, so I won't say that it's easy for you to adapt to your new body, but it's wonderful.

During HT, the body of a trans person undergoes considerable changes due to the adaptations promoted by this intervention, ranging from physical to mental aspects, directly reflecting on the integration and social coexistence of the trans person (BRASIL, 2015).

Expected physical effects of FtM (female to male) are voice thickening, clitoris enlargement, hair growth on the face and body, end of menstruation, breast tissue atrophy and redistribution/decrease in fat percentage body compared to muscle mass. As for MtF, there is breast growth, decreased erectile function and testicular tissue, and increased percentage of body fat compared to muscle mass (COLEMAN *et al.*, 2012).

These changes mostly occur over the course of two years, however, the exact number of effects to the physical changes can vary considerably. Coleman *et al.* (2012) describe these variations according to the estimated time for physical changes in frames 1A (masculinizing hormones) and 1B (feminizing hormones) below:

#### **Frame 1A- Effects and expected timing of masculinizing hormones <sup>a</sup>**

<b>Effect</b>	<b>Expected start <sup>b</sup></b>	<b>Maximum expected effect <sup>b</sup></b>
Skin oils/acne	1-6 months	1-2 years
Facial/body hair growth	3-6 months	3-5 years
Androgenic alopecia	> 12 months <sup>c</sup>	varies
Increased muscle mass/strength	6-12 months	2-5 years <sup>d</sup>
Body fat redistribution	3-6 months	2-5 years
End of menstruation	2-6 months	n/i
Clitoris enlargement	3-6 months	1-2 years
Vaginal atrophy	3-6 months	1-2 years
Voice deepening	3-12 months	1-2 years
a – Adapted with the permission of Hembree <i>et al</i> (2009). Copyright 2009. <i>Endocrinology Society</i> . b – Estimates represent published and unpublished clinical observations. c – Highly dependent on age and heredity; can be minimal. d – Significantly depend on the routine of exercise.		

Source: Coleman *et al.* (2012).

**Frame 1B-** Effects and expected timing of feminizing hormones <sup>a</sup>

<b>Effect</b>	<b>Expected start <sup>b</sup></b>	<b>Maximum expected effect <sup>b</sup></b>
Body fat redistribution	3-6 months	2-5 years
Decrease in muscle mass/strength	3-6 months	1-2 years <sup>c</sup>
Skin smoothing/decreased oiliness	3-6 months	unknown
Decreased libido	1-3 months	1-2 years
Decrease in spontaneous erections	1-3 months	3-6 months
Male sexual dysfunction	varies	varies
Breast growth	3-6 months	2-3 years
Decrease in testicular volume	3-6 months	2-3 years
Decreased sperm production	varies	varies
Loss and slow growth of body or facial hair	6-12 months	> 3 years <sup>d</sup>
Male pattern baldness	No regrowth, loss stops 1-3 months	1-2 years
a – Adapted with the permission of Hembree <i>et al</i> (2009). Copyright 2009. <i>Endocrinology Society</i> . b – Estimates represent published and unpublished clinical observations. c – Highly dependent on age and heredity; can be minimal. d – Significantly depend on the routine of exercise.		

Source: Coleman *et al.* (2012).

Physical changes, however, are not unaccompanied by the possible risks that HT can cause. A serious adverse event resulting from this treatment depends on several factors, such as self-medication, dose, route of administration and clinical-individual characteristics of the service user, such as age, presence of concomitant diseases, history family members, health habits, etc. Risks can be classified into three types, as follows: “(i) likely increased risk with hormone therapy, (ii) possible increased risk with hormone therapy, or (iii) questionable or undocumented increased risk” (COLEMAN *et al.*, 2012, p. 44, our translation). Below, in frame 2, the risks associated with hormonal therapy are described<sup>9</sup>:

**Frame 2-** Risks associated with hormone therapy

- Items in **bold** are clinically significant

<sup>9</sup> In Coleman *et al.* (2012), the authors describe in detail the overview of the medical risks of hormone therapy, in annex B of the document, pages 108-114. We recommend reading for further details.

<b>Risk level</b>	<b>Feminizing hormones</b>	<b>Masculinizing hormones</b>
Likely increased risk	<b>Venous thromboembolic disease <sup>a</sup></b>	<b>Polycythemia</b>
	Gallstones	Weight gain
	Elevated liver enzymes	Acne
	Weight gain	Androgenic alopecia (baldness)
	<b>Hypertriglyceridemia</b>	Sleep apnea
Likely increased risk in the presence of additional risk factors <sup>b</sup>	Cardiovascular disease	<b>Destabilization of certain psychiatric disorders <sup>c</sup></b>
	<b>Type 2 diabetes <sup>a</sup></b>	<b>Cardiovascular disease</b>
		<b>Hypertension</b>
Possible increased risk	<b>Hypertension</b>	Elevated liver enzymes
	Hyperprolactinemia or prolactinoma	<b>Hyperlipidemia</b>
No increased risk or evidence of non-completing or undocumented risk	<b>Breast cancer</b>	Loss of bone density
		<b>Breast cancer</b>
		<b>Cervical cancer</b>
		<b>Ovary cancer</b>
		<b>Uterine cancer</b>
a – The risk is larger with the administration of oral estrogens than with the administration of transdermal estrogens. b – Other risk factors include age. c – Include bipolar disorder, schizoaffective and others that can include manic or psychotic symptoms. This adverse event appears to be associated with higher doses or supraphysiological concentrations of testosterone in the blood.		

Source: Coleman *et al.* (2012).

Given this scenario, it's clear that the Valkyrie's body presents a differentiated functional and/or sporting performance due to the new alterations promoted in her morphophysiological structure. This discussion will be expanded in the next topic.

### 3.4 Spaces/publics (in)hospitable and inspections

Valkyria states that in all spaces that identify and separate people by sex/gender, she attends that destined for the feminine. Thus, every place where the body is intimately treated, such as locker rooms and bathrooms, for example, she enters: “All women's, women's locker rooms, women's bathrooms. Even playing in the male, as is the case, locker room, bathroom, sauna, any space guarded by gender, I only attend the female one”.

She identifies a certain recognition and legitimacy of her body in these spaces, but highlights that sometimes some surveillance and control mechanisms escape, especially the looks of older women, as she reports:

Occasionally there's a different look or two, you know, usually from the older folks [...] But then, in general I never had the idea of allowing myself to be shaken by this [...] I'm a woman, so independent what others think or not about me I'm a woman and I'm going to enter into the ladies' room, I have no choice, there's no other there [...] With younger girls, at my age, at university level, I never had problem with that [...] I've never had anything uncomfortable about

using the bathroom.

Bathrooms and locker rooms are problematic spaces for LGBTI+ people in general, but is the 'T' public that faces greater processes of denial and deprivation of the use of these places in the way the person believes they should use it.

In his thesis, Wagner Camargo (2012) discusses the symbolization of the locker room space in LGBTI+ competitions, stating that this environment is built in the light of heteronormativity as a sphere of acceptable homosocial relationships, as it is built in male and female, becoming an open question for transgender people.

Once in these spaces, bodies become more visible to others, especially naked, evoking feelings concerning the desires of their users: to men, the desire to satiate their male impulses in a public extension of aspects of masculinities, and to women, a space of reclusive and restrained desire, both, however, much more present in the field of ideas and which hardly embody in actual ways (CAMARGO, 2012).

On another occasion, Camargo (2014, p. 62, our translation) expands his ideas by stating that locker rooms are “contingent spaces, so to speak, where dressing/undressing happen together, inseparable, almost simultaneous”. In this perspective, they differ from bathrooms, as their use is collective, different from these, of individual use. However, these structures are similar as gender discriminatory places, surrounded by an “atmosphere of secrecy”, of multiple, intimate and veiled desires (CAMARGO, 2014).

It is under this premise that we understand that the presence of trans people can trigger a series of conflicts and estrangement from other people in these spaces, because due to the lack of knowledge and difficulty in deciphering the enigmas of the bodies in the bathrooms/locker rooms, the identification outside of the norm is denied, assuming it as a personality deviation and far from the real need for what one wants to do in the place: not using it for its proper purposes, but to satisfy the body's impulses that, biologically, are endowed with another sex, intransigent and impossible to decode outside the heteronormative molds that architect these environments. In short, it would be the perversion of the desire of an intransigent and immoral body, unworthy of assimilation, recognition and, therefore, enjoyment in these atmospheres.

In this way, based on Camargo (2014, p. 69, our translation) who understands the locker room “as a space for “regulation” of bodies and a producer of “obedient” subjectivities, consonant with the heterosexual world”, we also point out a cissexual regulation of this structure, since the trans body echoes a double social negation in this logic, being unable to use that destined to his/her gender of identification, and also unable to visit that of his/her biologically assigned sex. Therefore, a body that is hated, repelled, that is sometimes confronted and constantly watched by the other, who tries to massacre his/her rights and possibilities of (co)existing in sports atmospheres.

As for the other people who are present at the events in which she works, Valkyria says

that she doesn't care about anyone's opinion outside the court, because for she the role of these people is to affect the player's performance. Still, she reinforces once more that it's in adversity that she finds strength to fix her identity and performativity:

I'm playing and sending kisses. I'm like that, if someone said something, I make a point, call me a transvestite, I make a point and send a kiss, call me whatever, anything I deem pejorative or something like that [...] I like to deal with humor [...] I always heard things on the court [...] I think that what I do as a trans woman, and all girls should do, was to use it not to get down, but use these words, everything, as something to make us stronger.

Currently, in order to compete in these women's events, Valkyria says that the regulations of most competitions require her to send to the event's organizing committee, in advance, hormonal testing based on what prioritizes the IOC (2015) and a document with the assumed name (the university ID is used for this purpose, as it's the only one updated):

Yes, they ask for hormonal testing and, primarily, documentation with the assumed name [...] Of the IOC, International Olympic Committee, yes, except for one or another championship [...] but a priori yes, most of them follow the parameter of the IOC.

With regard to the participation of trans women athletes in sports, Valkyria talks about how would be the ideal sport model to her:

I think it is important for all trans girls to be able to practice their physical activity, their sport, their profession, in the case of high-level players, sport spectacle, and at the same time they are doing all of this to be well about themselves [...] there is a trans who plays for high performance, we have a trans on TV, at home, in college sports, we always have this body for those who look, which I think is to show a lot the achievements that we've had it until today, and it emphasizes the importance of this social side for us.

Finally, Valkyria reports that she is unaware of any evidence of biological advantage that a trans woman may have against a cis woman in sports competitions, since, in her opinion and personal experience, the adaptations and changes promoted by HT are so large that make this achievement impossible:

On the contrary, I think that a trans woman in sports is... [pause] to make an analogy here... think of an S10... ok? Take the motor... Put a VW Beetle motor. And go out with its on the street. This is an analogy I can make to try to illustrate what a trans woman is [...] it's changed even my center of gravity, because of the adipose tissue, accumulated fat, the drop in bone mineralization, the drop in the rate of lean mass, accumulation, water retention, I had an increase in my reaction time, I became a little slower, my agility also dropped, strength [...] is what basically underlies our participation, the idea of that we do not have an advantage, on the contrary, we even have to make more efforts, in the case of the axis, the body, the center of gravity, with all this change that we are not used to, because it is a completely different body.

Discussions that tend to debate the ethical, moral, justice and equity principles in sport competitions focus mainly on the sexual variations of athletes. The human sex is not binary, but

only two of them are accepted in sport, male and female (CAMPORESI, 2019). Over the years, several steps have been taken by the IOC and International Federations to guarantee the eligibility of athletes in these categories, such as the sex verification test, which was abolished in the late 1990s but rescued by the International Association of Athletics Federations (IAAF) in 2009 due to the surprising performances of the South African midfielder and two-time Olympic champion in the 800m, Caster Semenya (BETANCURT *et al.*, 2018; CAMPORESI, 2019).

Semenya has since 2009 been waging a relentless battle against the IAAF. That same year, she underwent a gender test for her physical appearance during the World Athletics Championships in Berlin. The argument given by the IAAF was that “[...] the suspicion was not that Caster was deliberately carrying out a drug doping, but that she would have a “rare medical condition” that could guarantee an “unfair advantage” (PIRES, 2016, p. 230, our translation).

Due to the results of her sex verification, which were never released, the athlete was suspended from competing for one year. In 2011, at the edition of the World Athletics Championships in Daegu, Caster won silver in the 800m, behind the Russian athlete Maria Savinova. The same result was repeated at the London Olympic Games (2012), however, after investigation by the World Anti-Doping Agency (WADA), it was found that Savinova used prohibited substances for performance, falling in the doping test, which bequeathed to Semenya the title of these two competitions. At the Rio Games (2016), Caster was champion in the 800m and, at the Athletics World Championship in the following year, in London, again champion of the 800m, and third place (bronze) in the 1500m (PIRES, 2016; BETANCURT *et al.*, 2018; KARKAZIS; JORDAN-YOUNG, 2018; CAMPORESI, 2019).

Constantly watched, especially physically controlled by having to undergo constant tests<sup>10</sup> and hormonal therapy<sup>11</sup> to decrease her endogenous testosterone levels, as the athlete received a message from the IAAF that she had an unknown “sexual anomaly” (CAMPORESI, 2019), Semenya is considered “[...] the world’s most scrutinized and violated athlete despite having done nothing wrong. She has neither doped nor cheated” (KARKAZIS; JORDAN-YOUNG, 2018, p. 2).

Caster's participation enabled discussions about intersex bodies in sport to be stimulated and to be studied on a larger scale. Historically, since the beginning of the 20th century, “[...] sports institutions are concerned with ensuring a level of “sports equity’ in the female category,

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<sup>10</sup> “In 2011 and 2012, respectively, the IAAF and the IOC announced a new resolution to regulate the eligibility of athletes, called ‘hyperandrogenism’. This resolution seeks to guide an investigation to discover whether a certain athlete has high levels of androgenic hormones for a female hormonal scale, which would supposedly confer some advantage on this woman's sports performance” (PIRES, 2016, p. 224, our translation).

<sup>11</sup> Since November 1, 2018, the new IAAF resolution requires that sexually differentiated female athletes undergo mandatory androgen suppression therapy to lower their testosterone levels below 5nmol/L, in order to compete in the female category for events of running between 400m and 1500m (KARKAZIS; CARPENTER, 2018; CAMPORESI, 2019).

as it scrutinizes and regulates certain bodies” (PIRES, 2018, p. 557, our translation), establishing basic principles and criteria for this purpose.

Karkazis *et al.* (2012) signal the basic points of the IOC that guide these principles with regard to hyperandrogenism, that is, a physiological condition in which women produce androgen hormones, especially testosterone, above the typical range for females, namely: 1- Eligibility and compliance; 2- Evaluation; 3- Justice; 4- Health and; 5- Privacy and Confidentiality.

With regard to the first, it guarantees that every woman recognized by law must be eligible to compete in women's events, as long as she has androgen hormone levels below the men's range. If the athlete fails the test, or refuses to submit to the eligibility test, which is her right, she is prevented from participating as a competitor in the chosen modality.

Regarding the evaluation aspect, Karkazis *et al.* (2012) explain that a panel of specialists in hyperandrogenism is composed to issue the recommendation for eligibility for the sport, which will anonymously assess the tests requested and issue its opinion. If the athlete is considered ineligible, she must be notified for what reasons and informed of the conditions she must fulfill if she wishes to qualify again.

Based on the precept of justice, the IOC suggests the elaboration of rules that guarantee the essence of the male/female classification and the fairness and integrity of female competitors for all female athletes. It recognizes that some women develop their bodies with high endogenous androgen rates, and these hormones, according to the IOC, are the justification for why men perform better than women in most sports and are, in fact, the real reason for the distinction between male and female competition, in addition to stipulating a control for women, since it is assumed that those with higher levels of androgens outperform those with lower levels of these hormones (KARKAZIS *et al.*, 2012).

Regarding the health aspect, in order to preserve it for athletes under their jurisdiction, sports authorities must have the responsibility to ensure that any case of female hyperandrogenism receives proper medical care (KARKAZIS *et al.*, 2012). Pires (2018) highlights that this condition is hostage to a debilitating process, which aims to reintegrate the intersexual body through sociomedical weakness in a state of deeply biopolitical chronicity, that is, disabling what is taken as excessive for a body typically considered female.

Finally, with regard to privacy, the investigation of a specific case must be conducted under strict confidentiality, to preserve the integrity of the athlete in question (KARKAZIS *et al.*, 2012).

According Devine (2019), eligibility in adult sport is largely supported by two premises: 1- “clean” or “doped” and; 2- male or female. The author recognizes that age, (in)capacities and physical performance also guide this arrangement, however, he focuses efforts on the adult category, for bodies without disabilities and that have sufficient performance levels as selection criteria to compete in major events, which is not an eligibility criterion. This mechanism to certify

eligibility, however, would be problematic for ex-dopers (athletes who have used steroids in the past but no longer use them and wish to return to competition after the doping suspension period) and for trans women athletes who do HT to be able to compete in the women's suit.

Devine (2019) points out that the key point of this discussion is the biological advantage that ex-dopers can retain even long after they stop using anabolic steroids, extending this objection to the case of trans women. This process is called “muscle memory”, where a body that had at a certain moment high stimulation of anabolic steroids, adapts its muscle physiology, increasing the responsiveness to training, suggesting that this effect does not dissipate for years, even after the suppression of these hormones<sup>12</sup> (DEVINE, 2019).

Although discontinuing the use of steroids results in reduced muscle mass, Devine (2019, p. 163) points that “[...] this reduction does not level the playing field with clean athletes, because steroid dopers retain this elevated capacity for muscle growth long after their period of doping”. These effects suggest the existence of a biophysiological legacy that needs to be monitored based on eligibility rules, in order to safeguard fair competition.

After weaving this argument, the author extends his explanation to the group of trans women athletes, questioning whether the new IOC recommendations (2015) for them to compete in women's events would be ethically justifiable, or whether they are adequate to ensure equity of competition between trans and cis female athletes (DEVINE, 2019). For the author, trans athletes who started HT in adulthood can enjoy lasting physiological gains due to the adaptations obtained during training with higher levels of endogenous testosterone, compared to their cis competitors, whose testosterone level has always been typically lower.

In contrast, Devine (2019) recognizes the potentially harmful effects of HT on the performance of trans women competing in elite sport, and warns that these effects can mitigate any advantage gained from muscle memory. When situating the limitations of the scientific studies on which he is based, as well as the still unknown effects that HT causes on the performance of elite trans women athletes, the author admits: “[...] my argument is necessarily speculative” (p. 165).

The possible and continuous objection to the injustice applied to the cases of ex-dopers and trans women could dictate three important implications for sports policy, namely: 1- for ex-dopers, suspensions varied according to the substance that was ingested and according to administration time; 2- for trans women, a readjustment period longer than the twelve months suggested by the IOC and; 3- a new adoption to guide the principle of fairness in sports

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<sup>12</sup> As a limitation, Devine (2019) recognizes that when making his argument, he used as a basis a research that analyzed the continued benefit of using steroids in mice and not in humans. Although there are similarities between the muscle development of mice and humans, the author states that more research needs to be conducted, in humans, to verify whether the effect would be similar to that found in mice.



competitions, based on the eligibility criteria for each sport, which go far beyond just testosterone rates (DEVINE, 2019).

According to Sónksen *et al.* (2018), the cross-sectional studies that analyze the relationship between the concentration of testosterone in the blood and athletic performance point to the existence of a relationship between the levels of this hormone and physical performance, however, they do not prove a causality and do not consider the possible importance of the insensitivity of certain bodies to androgenic hormones, which may even need exogenous assistance in order to obtain the typical expected performance. Camporesi (2019) confirms this information.

Still according to Sónksen *et al.* (2018), the absence of this statistically significant causality between androgens and performance does not support the evidence that total or free testosterone predicts performance in women, as some of them have androgen insensitivity syndrome (SÓNKSEN *et al.*, 2018).

Given this panorama, Karkazis *et al.* (2012) question why some characteristics, such as hyperandrogenism, which is a natural condition like any other exceptional biological variation in the human body, has various control and inspection mechanisms for the participation of athletes, when there are actually numerous other biological qualifications that are not considered, not even evaluated, to verify advantages in sports competitions, such as mitochondrial variations, acromegaly, Marfan syndrome, mutations in growth genes, muscle efficiency and blood supply to skeletal muscles, among others.

Besides, according to Betancurt *et al.* (2018), it is not scientifically proven that hyperandrogenism provides a sufficient difference in the percentage of performance between men and women. Therefore, the ineligibility of women with hyperandrogenism cannot be justified based on their supposed competitive advantages that would reach male performance levels. Due to the lack of statistical power, the analysis developed by the authors can only be considered as indicative of the difference in performance between women with and without hyperandrogenism (BETANCURT *et al.*, 2018).

Above all, Pires (2016, p. 231, our translation) highlights: “[...] the eligibility of “woman” as a sporting category is not just a job to promote fairer competition, without unfair advantages among female athletes, but it is mainly a work of classification and labeling of bodies and lives”. From this problematization, the bi-gendered way that sustains the pillars of the sport emerges. This division, as highlighted by the IOC itself, is based on the premise of justice that by dividing competitors into male/men and female/women, it would be promoting the equity of athletes for an ethical, moral and, above all, fair competition. Little is questioned about this polarization, which, in fact, only reflects a discursive fallacy about the principle of justice.

In this sense, we pay attention to the biophysiological variability among cis athletes themselves. Prado and Nogueira (2018) question: among cis, would they all be equal in their

biological dimensions? Wouldn't variables such as height, weight and hormone production also be different from each other?

In contrast, Anderson, Knox and Heather (2019) suggest that some of these advantages may be considered tolerable, such as height in basketball, for example, which would be part of a genetic lottery, as opposed to an intolerable advantage, such as a weight lifter heavy competing in the bantamweight division, for example.

In his research, Devine (2019) explores the effects of muscle memory in bodies subjected to the presence of anabolic steroids, pointing out data obtained from this intervention in mice. Although this effect can be similar in humans and generate an injustice in the competition, the author claims that it could be considered tolerable, as it is not morally problematic to the point of justifying the elimination and/or exclusion of the competitor.

Still according to Devine (2019), there seems to be a moral sensitivity to the injustices existing in gene doping, pharmacological doping and prostheses, which suggest a partiality to the injustice that arises through the “artificial” manipulation of someone's physiology. Another factor would be that the principle of justice should make use of the moral imperative to prevent injustice, evaluating cases that configure themselves as unfair conduct, such as some dopers, who use a type of cheat to achieve better results. This claim could not be extended to trans women, as their supposed advantage would arise from gender identity rather than cheating of any kind. Recognizing oneself as a woman, cis or trans, does not constitute an abject moral deviation from justice (DEVINE, 2019).

Devine (2019) also points out that the principle of justice should not be the only one to be used in this discussion, but also the aspects of impartiality in competition and the principle of inclusion. A possible argument that can be inferred from this is that trans women should have protected the rights to compete and act in the male category, or even a trans category, however, this adoption violates the principle of equal opportunity: “[...] they would not enjoy an equally valuable opportunity to compete as those who have the opportunity to compete in a category that is consistent with their gender identity” (DEVINE, 2019, p. 166).

As Karkazis and Carpenter (2018) argue, women recognized in this way must be supported by the recognition of this identification. Forcing them to compete in categories other than women violates this legal and social identity, in addition to redefining the sex of athletes who compete in categories other than women and once again reaffirming the identity past of a body that is no longer recognized in that individuality (KARKAZIS; CARPENTER, 2018).

Also, trans women who compete in elite sport are supported by the recommendations of the “IOC Consensus Meeting on Sex Reassignment and Hyperandrogenism”, from IOC (2015). Questioning these instructions, Anderson, Knox and Heather (2019) problematize the extent to which these guidelines are in fact safeguarding ethical principles of justice and equity for trans men and women.

These authors criticize the testosterone level established for trans women (10nmol/L), as it is five times higher than that common for healthy cisgender women. Although hormonal treatment with estrogens promotes a decrease in muscle mass and blood oxygen-carrying capacity, the therapy does not remodel the musculoskeletal and/or cardiovascular and respiratory systems qualitatively and quantitatively to the primary characteristics of elite cis female athletes (GOOREN *et al.*, 2014), which may suggest a difference in performance of trans when superimposed on cis: the IOC recommendations (2015) “[...] afford elite transwomen athletes a performance advantage [...] unfair because high testosterone levels and prior male physiology are (a) not attainable by ciswomen and (b) provide an all-purpose benefit” (ANDERSON; KNOX; HEATHER, 2019, p. 760).

Based on this premise, Anderson, Knox and Heather (2019) also criticize the recommendations made to trans men, triggering an inconsistency on the part of the IOC: although it allows them to compete without any restriction, granting the use of testosterone as a therapeutic/exogenous purpose to increase muscle mass, strength and oxygen-carrying capacity by blood cells, HT with this hormone also does not transform the musculoskeletal, cardiovascular, and respiratory physiological systems of transmen in the same way as those of cismen. So, “[...] elite transmen athletes may have a performance disadvantage relative to elite cismen athletes” (ANDERSON; KNOX; HEATHER, 2019, p. 760).

Another point, highlighted by Harper *et al.* (2018) denounces the controversy over the participation of transgender men in competitions with cisgender men, as the first are allowed to use exogenous testosterone, which for cisgender men is a forbidden option. Furthermore, Anderson, Knox and Heather (2019) also discuss how physical properties may or may not be considered advantageous in certain modalities, allowing young athletes to select a sport according to their body attributes. Thus, they infer that, since the advantages between cis male athletes is established over cis female athletes and is considered unfair, for consistency, this scenario would be replicated in competitions involving trans athletes.

This way, the authors recognize that the direct inclusion of trans athletes in sport based on their gender identity is problematic, as it conflicts with the principle of tolerable sport justice or not. Thus, they suggest the replacement of gender binarism in sport by something that recognizes the differences between people/athletes (bypassing the precepts of justice) and creating space for insertion/action for all athletes (satisfying the inclusion). The adoption of a multifaceted algorithm, similar to that used in the Paralympic Games, based on philosophies of skill, aptitude, power, endurance, tactical ability and mental focus, rather than physical capacity, would be a possible solution, as it considers its function and not its diagnosis (ANDERSON; KNOX; HEATHER, 2019).

## 5 Conclusion

Initially, we can conclude that Valkyria's path was different from what is expected for people who deviate from cisheteronormative norms, since her insertion in the sport was not very conflicting and well managed by her. During her identity recognition processes, she migrated from futsal to volleyball while promoting the processes of transgenering in her body.

In this way, she dealt with the conflicts of action for the existing suits in the sport, precisely because it is not possible to be absorbed neither by the male nor by the female. One way out was to participate in both, with particularities to the modality (in the male, she is libero; in the female, she is a hitter spiker).

In the meantime, your body no longer determines your identity, but is at your service. In this context, biology becomes a political artifact, being used to justify sex as a crystallized construct of social meanings, incapable of deviating from its senses and values (LE BRETON, 2014).

The transsexual and the transgender are post-modern individuals, insofar as they intend to place themselves in the world by themselves, to rectify their origin, deciding on their rebirth under an appearance that only belongs to them. Your body is a technological artifact, a surgical and hormonal construction, a plastic and technological modelling. They assume a fluid, nomadic identity, always ready to renew itself (LE BRETON, 2014, p. 32, our translation).

The presence of trans people completely displaces all the cissexual and heteronormative meanings that guide the sporting phenomenon today. Although Valkyria's participation is hybrid, as she participates in competitions both for men and women, she still encounters significant resistance to being able to act among cisgender women, based on legal (civil documentation and competition regulations), moral and ethical aspects (recognition of diversities and difference, inclusion of trans women in women's sport based on biophysiological and performance advantages and disadvantages) that circumvent the premises of equality and justice in the spheres of sport.

We recommend carrying out new studies that focus on the theme, investigating both empirically and epistemologically the cases of trans athletes in sports, recognizing that in the current era in which we live, it is impossible to maintain the classic division of sports by sex. As highlighted, new ways need to be devised by sporting Federations and Confederations taking into account much more than just the sexual qualities of athletes, both in the amateur (including here the university) and professional spheres.

The development of a new algorithm, as proposed by Anderson, Knox and Heather (2019) is a powerful and instigating solution to the problem, as it considers physiological and social factors to ensure that the most skilled athlete wins, and not the luckiest, characterizing itself as fair for circumventing unfair advantages and inclusive as it can be applied to all athletes.

Extremely complex, the development of this algorithm requires robust and specific scientific research on elite athletes, possibly generating new and challenging normative dilemmas.

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